

Amendment to the Claims:

The listing of claims will replace all prior versions, and listings of claims in the application:

Listing of Claims:

1. (Currently amended) A method of encoding a video signal representing a sequence of pictures, the method according to claim 14, comprising receiving a current picture for encoding, forming a temporal prediction of the current picture from a identifying the further picture of the sequence that can be used as an default alternative reference picture for the current picture or said part of the current picture, by comparing at least part of the default reference picture or the current picture with at least one further reference picture of the sequence, to calculating a measure of the similarity between the default reference picture or the current picture and each of said at least one further reference picture and, if the measure of similarity calculated using a particular further picture meets a pre-determined criterion, outputting an indicator identifying the particular further reference picture as a picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture.

2. (Currently amended) A method according to claim 14, further comprising forming a temporal prediction of at least part of the current picture from a first default reference picture and a second default reference picture for the current picture, said first default reference picture occurring temporally before the current

picture and said second default reference picture occurring temporally after the current picture, comparing at least part of the first default reference picture or the current picture with at least one further ~~reference-picture~~ of the sequence occurring temporally before the current picture, ~~to calculating~~ a measure of the similarity between the first default reference picture or the current picture and each of said at least one further reference-picture and, if the measure of similarity calculated using a particular further picture meets a pre-determined criterion, outputting an indicator identifying the particular further reference-picture as a picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture.

3. (Currently amended) A method according to claim 1, further comprising comparing at least part of the default reference picture or the current picture with a plurality of further ~~reference-pictures~~, ~~and outputting an indicator for each further reference-picture that meets the predetermined criterion and providing more than one indicator for the current picture or a part of the current picture.~~

4. (Currently amended) A method according to claim 3, further comprising ranking the further ~~reference-pictures~~ that meet the predetermined criterion and providing their associated ~~the indicators~~ with the ~~temporal prediction of the current frame picture or said part of the current picture~~ in order of rank, the further ~~reference-picture~~ having the closest similarity to the default reference picture or current picture being placed first.

5. (Currently amended) A method according to claim 414, wherein the indicator is included in a picture header of the encoded video signal.

6. (Currently amended) A method according to claim 414, wherein the sequence of video signal pictures is encoded according to the H.263 video compression standard and the indicator is included in the Supplemental Enhancement Information supplemental enhancement information.

7-8. Cancelled (without disclaimer or prejudice).

9. (Currently amended) A method of decoding an encoded video signal representing a sequence of pictures, the encoded video signal including pictures that have been encoded by forming a ~~temporal~~ prediction of at least part of a current picture from a default reference picture for the current picture and further including an indicator provided for the current picture or said part of the current picture, the indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal, the method comprising:

- receiving an encoded video signal representing a current picture and decoding at least the picture header of the current picture whereinand, when the decoder is unable to decode the default reference picture of the current picture, examining an said indicator provided for the current picture or a part of the current picture, identifying a further reference picture and decoding the current picture or said part of the current picture with reference to said further reference picture if such

~~an indicator is associated with the current picture~~ the alternative reference picture identified by said indicator.

10. (Currently amended) A video encoder comprising an input for receiving a video signal representing a sequence of pictures, ~~an input for receiving a current picture for encoding, and a predictive coder, the predictive coder being arranged for~~ forming a temporal prediction of at least part of the ~~a current picture of the sequence~~ from a default reference picture for the current picture, a comparator for comparing the default reference picture or the current picture with at least one further reference picture and calculating a measure of the similarity and, when the measure of similarity meets a pre-determined criterion, outputting ~~the encoder being arranged to provide an indicator for the current picture or a part of the current picture identifying the~~ a further reference picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal.

11. (Currently amended) A video decoder comprising an input for receiving an encoded video signal representing a sequence of pictures, the encoded video signal including pictures that have been encoded by forming a temporal prediction of at least a part of a current picture from a default reference picture for the current picture and further including an indicator provided for the current picture or said part of the current picture, the indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal, the

~~decoder comprising an input for~~being arranged to receiving an encoded video signal representing a current picture ~~and a processor for decoding at least the picture header of the current picture wherein~~ and, when the decoder is unable to decode the default reference picture of the current picture, the decoder is arranged to examine an said indicator provided for the current picture or said part of the current picture, ~~identifying a further reference picture and to decode the current picture or said part of the current picture with reference to said further reference picture if such an indicator is associated with the current picture~~ the alternative reference picture identified by said indicator.

12. (Currently amended) A radio telecommunications device including at least one of a video encoder ~~and a video~~ and a video decoder, wherein said video encoder comprises: an input for receiving a video signal representing a sequence of pictures, ~~an input for receiving a current picture for encoding,~~ and a predictive coder, the predictive coder being arranged for ~~to~~ forming a temporal prediction of at least part of the ~~a~~ current picture of the sequence from a default reference picture for the current picture, ~~a comparator for comparing the default reference picture of the current picture with at least one further reference picture and calculating a measure of the similarity and, when the measure of similarity meets a pre-determined criterion, outputting~~ the encoder being arranged to provide an indicator for the current picture or a part of the current picture identifying the ~~a~~ further reference picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal; and wherein said video decoder comprises: an input for receiving an encoded video

signal representing a sequence of pictures, the encoded video signal including pictures that have been encoded by forming a ~~temporal~~-prediction of at least a part of a-the current picture from a the default reference picture for the current picture, the decoder ~~comprising an input for~~being arranged to receive ~~an~~ the encoded video signal representing a the current picture wherein, when the decoder is unable to decode the default reference picture of the current picture, the decoder is arranged to examine an indicator provided for the current picture or said part of the current picture, the indicator identifying a further reference-picture of the sequence that can be used as an alternative reference picture for the current picture or a part of the current picture and to decode the current picture or said part of the current picture with reference to said further ~~reference-picture is such an indicator is associated with the current picture.~~

13. Cancelled (without disclaimer or prejudice).

14. (New) A method of encoding a video signal representing a sequence of pictures to form an encoded video signal, the method comprising forming a prediction of at least part of a current picture of the sequence from a default reference picture for the current picture and providing an indicator for the current picture or a part of the current picture, the indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal.

15. (New) A method according to claim 14, wherein if the indicator is associated with a part of the current frame, it is included in a picture segment header or a macroblock header of the encoded video signal.

16. (New) A method according to claim 14, wherein the indicator identifying a further picture as a picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture indicates the temporal reference of the further picture.

17. (New) A method according to claim 14, wherein alternative reference pictures are provided for B pictures and P pictures.

18. (New) A method according to claim 14, wherein alternative reference pictures are provided only for P pictures.

19. (New) A method according to claim 1 or 2, wherein the measure of similarity is a sum of absolute differences calculated using differences in pixel values between the default reference picture and a further picture.

20. (New) A method according to claim 1 or 2, wherein the similarity between the default reference picture and a further picture is assessed using picture histograms.

21. (New) A method according to claim 14, wherein the video signal is encoded as a scalable video sequence and alternative reference pictures are provided for predictively encoded enhancement layer pictures of the scalable video sequence.

22. (New) A method according to claim 14, wherein the indicator is provided with the current picture or part of the picture.

23. (New) A method according to claim 9, comprising examining more than one indicator provided for the current picture or said part of the current picture, each of said more than one indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal.

24. (New) A method according to claim 9, wherein when more than one indicator is provided for the current picture or part of the current picture, the indicators are ordered in the encoded video signal according to rank, the indicator identifying the picture having the closest similarity to the default reference picture or current picture being first in the order of rank, the decoding method further comprising using the further pictures identified by the indicators as alternative reference pictures for the current picture or said part of the current picture in order of rank.

25. (New) A method according to claim 9, comprising obtaining the indicator or indicators from a picture header of the encoded video signal.

26. (New) A method according to claim 9, comprising obtaining the indicator or indicators from a picture segment header or a macroblock header of the encoded video signal.

27. (New) A method according to claim 9, comprising obtaining the indicator or indicators from Supplemental Enhancement Information of a video sequence encoded according to the H.263 video compression standard.

28. (New) A method according to claim 9, wherein the indicator identifying a further picture as a picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture indicates the temporal reference of the further picture.

29. (New) A method according to claim 9, wherein alternative reference pictures are provided for B pictures and P pictures.

30. (New) A method according to claim 9, wherein alternative reference pictures are provided only for P pictures.

31. (New) A method according to claim 9, wherein the video signal is encoded as a scalable video sequence and alternative reference pictures are provided for predictively encoded enhancement layer pictures of the scalable video sequence.

32. (New) A video encoder according to claim 10, wherein the video encoder is arranged to identify a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture by comparing at least part of the default reference picture or the current picture with at least one further picture of the sequence to calculate a measure of similarity between the default reference picture or the current picture and each of said at least one further picture and, when the measure of similarity calculated using a particular further picture meets a pre-determined criterion, to output an indicator identifying the particular further picture as a picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture.

33. (New) A video encoder according to claim 10, wherein the predictive coder is arranged to form a prediction of at least part of the current picture from a first default reference picture and a second default reference picture for the current picture, said first default reference picture occurring temporally before the current picture and said second default reference picture occurring temporally after the current picture, and the encoder is arranged to compare at least part of the first

default reference picture or the current picture with at least one further picture of the sequence occurring temporally before the current picture to calculate a measure of similarity between the first default reference picture or the current picture and each of said at least one further picture and, if the measure of similarity calculated using a particular further picture meets a predetermined criterion, to output an indicator identifying the particular further picture as a picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture.

34. (New) A video encoder according to claim 10, wherein the video encoder is further arranged to compare at least part of the default reference picture or the current picture with a plurality of further pictures, to output an indicator for each further picture that meets the predetermined criterion and to provide more than one indicator for the current picture or a part of the current picture.

35. (New) A video encoder according to claim 34, wherein the video encoder is further arranged to rank the further alternative pictures that meet the predetermined criterion and provide their associated indicators for the current frame or said part of the current picture in order of rank, the further picture having the closest similarity to the default reference picture or current picture being placed first.

36. (New) A video encoder according to claim 10, wherein the video encoder is arranged to include the indicator or indicators in a picture header of the encoded video signal.

37. (New) A video encoder according to claim 10, wherein if the indicator is provided for a part of the current frame, the video encoder is arranged to include it in a picture segment header or a macroblock header of the encoded video signal.

38. (New) A video encoder according to claim 10, wherein the video sequence is encoded according to the H.263 video compression standard and the video encoder is arranged to include the indicator in the Supplemental Enhancement Information.

39. (New) A video encoder according to claim 10, wherein the video encoder is arranged to use the temporal reference of the further picture as the indicator identifying a further picture as a picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture.

40. (New) A video encoder according to claim 10, wherein the video encoder is arranged to provide alternative reference pictures for B pictures and P pictures.

41. (New) A video encoder according to claim 10, wherein the video encoder is arranged to provide alternative reference pictures only for P pictures.

42. (New) A video encoder according to claim 32 or 33, wherein the video encoder is arranged to determine the measure of similarity as a sum of absolute differences calculated using differences in pixel values between the default reference picture and a further picture.

43. (New) A video encoder according to claim 32 or 33, wherein the video encoder is arranged to assess the similarity between the default reference picture and a further picture using picture histograms.

44. (New) A video encoder according to claim 10, wherein the video encoder is arranged to encode the video signal as a scalable video sequence and to provide alternative reference pictures for predictively encoded enhancement layer pictures.

45. (New) A video encoder according to claim 10, wherein the encoder is arranged to provide the indicator with the current picture or part of the picture.

46. (New) A video decoder according to claim 11, wherein the video decoder is arranged to examine more than one indicator provided for the current picture or said part of the current picture, each of said more than one indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal.

47. (New) A video decoder according to claim 46, wherein when more than one indicator is provided for the current picture or part of the current picture, the indicators are ordered in the encoded video signal according to rank, the indicator identifying the picture having the closest similarity to the default reference picture or current picture being placed first in the order of rank, the video decoder being further arranged to use the further pictures identified by the indicators as alternative reference pictures for the current picture or said part of the current picture in order of rank.

48. (New) A video decoder according to claim 11, wherein the video decoder is arranged to obtain the indicator from a picture header of the encoded video signal.

49. (New) A video decoder according to claim 11, wherein the video decoder is arranged to obtain the indicator from a picture segment header or a macroblock header of the encoded video signal.

50. (New) A video decoder according to claim 11, wherein the video decoder is arranged to obtain the indicator from Supplemental Enhancement Information of a video sequence encoded according to the H.263 video compression standard.

51. (New) A video decoder according to claim 11, wherein the indicator identifying a further picture as a picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture indicates the temporal reference of the further picture.

52. (New) A video decoder according to claim 11, wherein the video decoder is arranged to decode a scalably encoded video sequence in which alternative reference pictures are provided for predictively encoded enhancement layer pictures of the scalably encoded video sequence.

53. (New) A multimedia terminal device including at least one of a video encoder and a video decoder, wherein said video encoder comprises: an input for receiving a video signal representing a sequence of pictures and a predictive coder, the predictive coder being arranged to form a prediction of at least part of a current picture of the sequence from a default reference picture for the current picture, the encoder being arranged to provide an indicator for the current picture or a part of the current picture identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal; and wherein said video decoder comprises: an input for receiving an encoded video signal representing a sequence of pictures, the encoded signal including pictures that have been encoded by forming a prediction of at least a part of a current picture from a default reference picture for the current picture, the decoder being arranged to receive an encoded

video signal representing a current picture wherein, when the decoder is unable to decode the default reference picture of the current picture, the decoder is arranged to examine an indicator provided for the current picture or said part of the current picture, the indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or a part of the current picture and to decode the current picture or said part of the current picture with reference to said further picture.

54. (New) An encoded video signal representing a sequence of pictures, the encoded video signal including pictures that have been encoded by forming a prediction of at least part of a current picture of the sequence from a default reference picture for the current picture, the encoded video signal further including an indicator provided for the current picture or a part of the current picture, the indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal.

55. (New) An encoded video signal according to claim 54, including more than one indicator provided for the current picture or said part of the current picture, each of said more than one indicator identifying a further picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture when decoding the encoded video signal.

56. (New) An encoded video signal to claim 55, wherein the indicators are included in the encoded video signal according to an order of rank, the indicator identifying the picture having the closest similarity to the default reference picture or current picture being first in the order of rank.

57. (New) An encoded video signal according claim 54, wherein the indicator is included in a picture header of the encoded video signal.

58. (New) An encoded video signal according claim 54, wherein the indicator is included in a picture segment header or a macroblock header of the encoded video signal.

59. (New) An encoded video signal according to claim 54, wherein the sequence of video pictures is encoded according to the H.263 video compression standard and the indicator is included in the Supplemental Enhancement Information.

60. (New) An encoded video signal according to claim 54, wherein the indicator identifying a further picture as a picture of the sequence that can be used as an alternative reference picture for the current picture or said part of the current picture indicates the temporal reference of the further picture.

61. (New) An encoded video signal according claim 54, wherein alternative reference pictures are provided for B pictures and P pictures.

62. (New) An encoded video signal according to claim 54, wherein alternative reference pictures are provided only for P pictures.

63. (New) An encoded video signal according to claim 54, wherein the video signal is encoded as a scalable video sequence and alternative reference pictures are provided for predictively encoded enhancement layer pictures of the scalable video sequence.